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## Conclusions and Policy Recommendations: Are We There Yet?

It is not surprising that the 1990s ushered in unprecedented advances in global protection for intellectual property. The process is still ongoing. The powerful forces of economic globalization and technical change demand the ability to exploit innovations on a world scale, tapping the ever broadening circle of countries that are integrating more tightly with the international economy. As investments in new technologies and products rise, the costs of imitating or copying many of them fall. Rising incomes throughout the world are creating vast numbers of consumers with tastes for differentiated, high-quality goods and services. Producers in those economies increasingly are recognizing interests in protecting the fruits of their innovation. In short, we are in the midst of a significant increase in both the demand for and supply of intellectual property protection.

### Where We Are

While these processes are by no means uniform across countries and the mechanisms for achieving policy changes have been difficult and contentious, the global result is dramatic. In 14 years, since the Uruguay Round began, IPRs moved from obscure background regulations that seemed only tangentially related to trade to a leading concern for global reform. Many countries, developing and developed alike, undertook upgrades in their systems. Regional trade agreements routinely included major provisions on intellectual property. The global trading system itself agreed to respect minimum standards for IPRs, an unprecedented injection of disciplines and regulatory obligations into the WTO. The TRIPs

agreement is all the more significant for the impending entry of China and Russia, which also observe the IPR standards.

Unquestionably the status of intellectual property protection in the world has been strengthened markedly by these changes. Consider the most important of these shifts: countries are committed to take action against copyright and trademark piracy, even where this activity is economically significant and an important employer. This change alone is a major victory for intellectual property developers in the United States and other advanced nations, though it should also materially assist business development in the reforming countries as well. Patents must be provided for pharmaceutical products, agricultural chemicals, and many kinds of biotechnological inventions, while the scope of patents generally must be increased. These changes are supplemented by patents or effective protection for plant varieties. Thus, leading-edge technologies will reap higher returns to R&D on a global scale, even as countries affording new protection determine how they might benefit from the reforms.

The TRIPs agreement ushers in global copyright protection for computer programs, electronic transmissions, broadcasts, and phonograms. It requires countries to prevent the use of integrated circuits that infringe protected designs. It advances protection of trade secrets (confidential information) to the center of business law.

These are significant modifications in policy, even though stronger IPRs may be attenuated by competition rules and limitations on the scope of protection. They offer entirely new opportunities for MNEs to earn greater returns on their intellectual assets. The new IPRs truly represent the globalization of policy and may be only the vanguard of future harmonization of standards.

Economic analysis demonstrates that such a fundamental change in policy norms should have a host of complex effects. IPRs operate in a world of market failures and imperfections. Thus, it is impossible to guarantee as a matter of logic or fact that stronger IPRs will generate economic gains for all countries. Indeed, the implementation of stronger IPRs alone could make some nations worse off. In this sense, reforming IPRs is very different from liberalizing trade barriers.

Economics can point to relevant trade-offs, however, and inform empirical analysis. The evidence reviewed in chapters 4 and 5 largely supports the view that stronger IPRs have considerable promise for expanding flows of trade in technical inputs, FDI, and licensing. These in turn could expand the direct and indirect transfer of technology to developing nations. Such gains may not be uniformly available to all developing countries, of course. The poorest nations in particular may find little benefit in terms of greater economic activity as they absorb negative changes in their terms of trade. But more advanced developing nations could well benefit from the new policy regime and its ability to shorten technological distances between core technology providers and technology followers.

Long-run gains would come at the expense of costlier access in the medium term. Technological learning must shift from uncompensated imitation of lower-quality techniques to compensated acquisition of higher-quality techniques. The source of information spillovers should move from copying by free riders to incremental innovation by fair followers.

This transition could be difficult. Thus, the great challenge facing countries upgrading their IPRs systems is to establish procedures that, while fully consistent with both the letter and the intentions of TRIPs, maximize their dynamic gains over time. The challenge refers both to IPRs themselves and to the extensive complementary policies that make them effective.

Thus, for example, the least-developed countries, many of which are still in the implementation phase, are likely to select standards that meet only the minimum TRIPs obligations. Implementation could assist them in improving their abilities to engage in learning and adaptive, incremental innovation. These countries require considerable assistance in revising and administering their intellectual property systems. That assistance could be extended to broader help in managing any dislocations that could emerge, thus promoting stronger competitive processes in their markets.

For their part, higher-income developing countries could choose stronger standards to favor a mix of invention and adaptive learning. They have dynamic interests in acquiring and developing technology through compensated means, buttressed by enforceable contracts and supported by intellectual property protection. These countries are also in a position to establish an effective infrastructure for promoting technological change, exploiting synergies between research institutes and private enterprises. Again, such processes would operate more efficiently with open competition and transparent regulation.

Finally, developed countries generally have intellectual property standards that exceed the minimum levels required by TRIPs. With deep and competitive economies, they find that the gains from IPRs substantially outweigh the costs in most circumstances. Where the exercise of IPRs threatens to be anticompetitive or excessively costly in social terms, they have mature legal systems of corrective interventions.

Nonetheless, views on further investing private rights in information are by no means uniform among, or even within, rich nations. There are legitimate reasons to be concerned about the highly protective standards that have emerged recently in the United States and the European Union. These laws and judicial interpretations provide broad patent protection for software and biotechnological inventions. They also promote extensive rights in the formulation of databases, which could have a negative effect on scientific research. It remains to be seen whether such standards excessively tilt the balance within those jurisdictions toward the private rights of inventors and away from the needs of competitors and

users. It is not too early to claim that they are inappropriate for developing economies and net technology importers.

## Where We Are Going

Despite considerable institutional reform, the global IPRs system is still in flux. Over the next few years attention will focus on the implementation of TRIPs and on the new administrative and enforcement procedures in many countries. Here it is again appropriate to mention the need for effective technical assistance and to work toward effectuating the TRIPs language on technology transfer commitments. Further, TRIPs has a built-in review agenda that is to be invoked soon. Much of that review will consider the operation of Article 27 protecting biotechnology. There are good reasons to doubt the wisdom of strengthening these provisions markedly in the near term. It could backfire into an attempt by many developing countries to roll back the entire agreement.

TRIPs may well come up for discussion in the next round of trade negotiations. Among the contentious issues that would emerge, three stand out:

1. There is little scope in economic theory or evidence for a global policy banning parallel imports.
2. Because Article 40 of TRIPs explicitly invites countries to invoke anti-trust rules to discipline abuses of IPRs, it raises some scope for multilateral consideration of an agreement on competition policy.
3. Attempts to extend the database protection laws of the EU and the United States across the world should be resisted. Protection on that scale is unlikely to serve the legitimate needs of researchers and competitors in many developed countries, much less in the developing world.

In my view, TRIPs is a delicate compromise among international competing interests. Despite the positive evidence presented earlier about its potential implications, there is much that we do not know about how it could affect competitive processes in different countries. It seems appropriate to let these new processes settle in and begin working on markets before considering extensive new multilateral obligations.

## Does TRIPs Belong in the WTO?

An important question is whether the WTO risks being overburdened by the introduction of IPRs into its scope of authority. There are important

systemic issues here (Maskus 2000b). For example, many TRIPs standards are expressly about production processes, which could open the WTO to further process-oriented rules. Further, the need to monitor and adjudicate TRIPs practices in member states could be problematic for the WTO Secretariat.

Nonetheless, there are valid reasons for its inclusion. First, international variations in IPRs clearly and directly influence trade flows, suggesting they fit within the purview of the trading system. Second, weak IPRs generate international static and dynamic externalities that are best addressed globally. Finally, the international policy coordination problems in the IPRs area seem particularly acute. Thus, I disagree with recent criticisms from trade economists that including TRIPs in the WTO is inappropriate (Panagariya 1999).

## **The Way Forward Is to Be Forward-Looking**

With the negotiation of TRIPs and the strengthening of standards in regional and unilateral initiatives, considerable machinery will be in place to promote international technological dynamism. Like any other major set of rules, this machinery must be managed effectively for it to achieve its desired goals. For IPRs these goals include greater incentives for invention and innovation, more opportunities for compensated and effective transfers of technology, modernizing of the business sectors in developing countries, and tighter integration of poor nations into the global system of technological evolution.

Perhaps it is not widely appreciated, but the failure of the Seattle Ministerial meeting of the WTO in December 1999 may be traced in part to dissatisfaction on the part of many developing countries and non-governmental organizations (NGOs) with TRIPs. Developing countries are frustrated with the absence of effort by rich nations to transfer more technology. The commitment to make such transfers, though exhortatory, was nonetheless a promise that was written into the agreement itself.

Many countries are further concerned about other issues discussed at length above, most significantly prices of pharmaceutical products and new seed varieties, uncompensated exploitation of genetic resources, the patenting of life forms, and IPR-based limitations on their access to information on the internet. There is additional frustration that many of the TRIPs provisions were reached without adequate consideration of how developing countries could participate in them. For example, the evolving language in TRIPs on geographical indications remains largely confined to wines and spirits, while many developing countries point to food products that could be protected to their advantage, such as Basmati rice and Darjeeling tea.

It is conceivable, finally, that such frustrations and the inability to launch a new round of trade negotiations could weaken the resolve of WTO member states to finish implementing the more difficult TRIPs obligations.

The concerns expressed by NGOs share some of these features but extend further to the potential implications of TRIPs for the environment. There are reasons to think that better defined property rights could rationalize and improve exploitation of the environment, but this outcome is not assured. Thus, significant questions remain about the interplay between IPRs, the health implications of genetically modified organisms, and biodiversity. These issues will be at the forefront of the emerging global debate about TRIPs in particular and the WTO in general.

The point here is that if the considerable dynamic gains that TRIPs proffers are to be achieved, some costs must be absorbed by numerous developing and developed economies. Copying and imitative industries in many countries will be pressured to contract and restructure. Access to important therapies, inputs, and technologies will become more expensive. Costs of administration and enforcement will rise as standards are strengthened.

Yet a main theme of this book is that such costs can be accompanied by even larger benefits, though with a time lag. Stronger IPRs can usher in more certain contracts that raise the quality of technology acquired and permit tighter partnerships between domestic and foreign firms. They can set the stage for efficient generation of follow-on and adaptive technologies that help diffuse learning throughout the economy. They can provide incentives for significant investments to start up new firms, build product quality, and expand marketing networks. These gains are not merely theoretical. There is solid evidence to back up each of these claims.

However, to improve the prospects for realizing these benefits, many nations must engineer significant and broad reforms. The effectiveness of IPRs is maximized in an environment of open markets, competitive entry, and sound opportunities for taking risks and building skills. A basic policy prescription of this volume—that poor nations and industrializing countries should adopt procompetitive forms of IPRs—is meaningful only if competition remains effective. As IPRs change the terms of international competition, they also could alter the severity of international market failures. In some circumstances, stronger IPRs could improve the efficiency with which markets are served and the environment is used. In other circumstances, unfortunately, those processes could be worsened. Thus there is scope for international management of certain aspects of intellectual property protection. Technology developers in industrial countries should not expect to be exempt from international regulation, for they face it deeply in their own countries. Thus, it is important to think through definitions of practices that would constitute abuses at the international level. It is important also to consider circumstances

under which adequately compensated compulsory licenses, issued by an international authority, could be beneficial in meeting problems of the global commons. Finally, it makes sense to use the concepts of IPRs, in the form of global market guarantees, to motivate firms to undertake research into critical medicines and vaccines for impoverished nations.

Further growth in the global IPRs system requires due concern for the needs of fair technology followers and flexibility to accommodate the evolution of technology leaders. Technical change always outstrips IPRs reform; IPRs change in response to the former. The newest technologies in information science, telecommunications, and biotechnology already have placed heavy stresses on the TRIPs system and on national regulatory regimes. Because dynamic evolution of demands for protection is thus inevitable, the global system will continue to evolve.

The advantage of the current system, as reflected in TRIPs, is that it establishes minimum standards that can be competitively applied to the benefit of follower countries, but does not prevent technology leaders from adopting higher standards. As I have explained in this volume, competitive application in the former group can be beneficial if it is accompanied with hard work. Ultimately, the ability of follower countries to experiment competitively could rein in the protective excesses of leading countries. If that equilibrium were to emerge, the designers of TRIPs would deserve significant praise.